AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) An article having a joint and a ~~A~~ shape memory foam fluid seal ~~material~~ comprising:

a base foam material ~~having an open cell structure~~; and

a thermoplastic substance impregnated and distributed in said base foam material and having a melting point lower than that of said base foam material, the cells of said base foam material at their surface having a hardened layer of the thermoplastic substance and in contact with the base foam material,

wherein said shape memory foam material is a composite material obtained by compressing said base foam material and said thermoplastic substance, and

wherein a compressed state of said shape memory foam material is retained in a room temperature by said hardened product of said thermoplastic substance existing at least in the cell surface layer thereof, and

wherein the foam material is mounted in the joint in a compressed state in an article to be sealed and is released from its compressed state and is expanded by heating and softening said hardened product of said thermoplastic substance ~~by heating~~,

said shape memory foam material is prepared by a process of:

(1) impregnating said base foam material with a thermoplastic substance,

(2) heating at a temperature of 80 to 200°C and compressing the impregnated base foam material at a temperature the same as or higher than a softening temperature of said thermoplastic substance as well as less than a softening temperature of said base foam material,

(3) cooling said impregnated base foam material of step (2) while retaining it in the compressed state, and

(4) releasing the pressure after cooling.

2. (Original) The shape memory foam material according to claim 1, wherein a volume of said base foam material is recovered in 70% or more of an uncompressed state thereof by heating.

3. (Original) The shape memory foam material according to claim 1, wherein a thickness of said base foam material is retained in a half or less of an uncompressed state thereof in a room temperature.

4. (Original) The shape memory foam material according to claim 1, wherein said base foam material is made of one of a thermosetting resin and a cross-linked rubber.

5. (Original) The shape memory foam material according to claim 1, wherein said base foam material is made of urethane.

6. (Original) The shape memory foam material according to claim 1, wherein said base foam material in an uncompressed state has a water absorption coefficient of 0.2 g/cm^3 or more, and a bulk density of 100 kg/m^3 or less.

7. (Original) The shape memory foam material according to claim 1, wherein said thermoplastic substance is a thermoplastic resin wherein at least one of a glass transition point, a melting point, and a softening temperature is less than 120°C.

8. (Original)The shape memory foam material according to claim 7, wherein said thermoplastic resin contains at least one selected from the group consisting of an acrylate, a styrene, and a vinyl acetate as a monomer unit.

9. (Original) A method of producing a shape memory foam material, comprising the steps of:

impregnating a base foam material in a thermoplastic substance;

heating and compressing said impregnated base foam material at a temperature the same as or higher than a softening temperature of said thermoplastic substance as well as less than a softening temperature of said base foam material;

cooling down said impregnated base foam material while retaining the compressed state; and

releasing the pressure after cooling.

10. (Currently amended) A soundproof cover ~~for~~ mounted on an automobile engine, said soundproof cover comprising a shape memory foam material including:

a base foam material; and

a thermoplastic substance impregnated and distributed in the cells of said base foam material and having a melting point lower than that of said base foam material, the

cell of said base foam material at their surface having a hardened layer of said thermoplastic substance and in contact with said base foam material,

wherein said shape memory foam material is a composite material obtained by compressing said base foam material impregnated with said thermoplastic substance, and

wherein a compressed state of said shape memory foam material is retained in a room temperature by said hardened product of said thermoplastic substance existing at least in the cell surface layer thereof, and

wherein the soundproofing foam material in its compressed state is mounted on an automobile engine and is then heated and released by softening said hardened product of said thermoplastic substance ~~by heating~~,

said shape memory foam material is prepared by a process of:

(1) impregnating said base foam material with a thermoplastic substance,

(2) heating at a temperature of 80 to 200°C and compressing the impregnated base foam material at a temperature the same as or higher than a softening temperature of said thermoplastic substance as well as less than a softening temperature of said base foam material,

(3) cooling said impregnated base foam material of step (2) while retaining it in the compressed state, and

(4) releasing the pressure after cooling.

11. (new) The shape memory foam material of claim 1, wherein the base foam material has an open-cell structure.

REMARKS

Reconsideration of this application is requested. Claims 1-11 remain active in the application subsequent to entry of this Amendment.

Claims 1 and 10 are above amended in order to more particularly point out and distinctly claim that which applicants regard as their invention. Claim 1 is directed to an article having a joint and a fluid seal comprised of the defined sheet memory foam material. Fluid seals are disclosed in this application especially page 19, line 5 to page 20, line 11.

In their specification at page 9, line 3, applicants describe a preference that the base foam material has an open-cell structure. This feature is now made the subject of new claim 11, as it is a preferred feature, and removed from claim 1.

Claim 10 is amended in directed to a soundproof cover mounted on an automobile engine. The soundproof cover composed of the defined shape memory foam material and also finds description at page 9, line 15 to page 20, line 11 and, in addition, Figure 1of the drawings and the discussion of that figure at pages 21-22. The amendments made to claims 1 and 10 do not include added subject matter and serve to further clarify and define the invention.

Claims 1-8 and 10 stand rejected as either being anticipated by or obvious over U.S. Patent No. 5,114,773 to Bogdany which relates to a carpet underlay cushion which is not relevant to the subject matter defined by applicants' claims nor does it describe placing a foam material on or within an article and releasing it from its compressed state by expanding and heating the foam material.

The substance of the above claim amendments was discussed with Examiner Vo and the undersigned on September 12, 2003, and it is counsel's understanding claims 1 and 10 as above amended will be regarded as defining over this citation.

Reconsideration and allowance are solicited. If for any reason this amendment does not place the application in condition for allowance, the Examiner is urged to contact the undersigned by telephone.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____
Arthur R. Crawford
Reg. No. 25,327

ARC:lsp
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100